TESTIMONY
OF
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BEFORE THE
ENERGY AND COMMERCE COMMITTEE
UNITED STATES HOUSE OF REPRESENTATIVES
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Mr. Chairman and members of the Committee, my name is Tony Earley.

I am Chairman and Chief Executive Officer of DTE Energy headquartered in Detroit. DTE Energy is a diversified energy holding company that owns, among other companies, the Detroit Edison Company, which serves over 2 million customers in southeast Michigan. One of our most important electric generating assets is the 1130 MW Fermi 2 nuclear power plant which has been a workhorse of our system since 1988.

As we look to the future, there is a growing need for baseload generation across the United States. In Michigan, our Fermi plant was the last baseload plant to come on line. Our state has identified a need to make significant generating additions in the next decade. At Detroit Edison, we are actively engaged in planning studies analyzing the possibility of building a second nuclear plant at our Fermi site. While there are many issues to consider before proceeding with a new nuclear plant, plans for the management and disposal of nuclear waste are critical to the decision making process.

I come here today not only in my capacity as the CEO of a company that owns a nuclear plant, but also as Chairman of the Nuclear Energy Institute (NEI). NEI is the trade association of the U.S. nuclear industry. Our membership includes the owners of all U.S. nuclear power plants, as well as a large majority of the firms that supply equipment and technical expertise to the industry.

Thank you for this opportunity to express the nuclear energy industry's strong support of H.R. 5360, the Nuclear Fuel Management and Disposal Act. I also will address additional provisions that we believe would strengthen the legislation's goal to enhance the management and disposal of used nuclear fuel and high-level radioactive waste, to ensure protection of public health and safety, and to ensure the territorial integrity and security of the repository at Yucca Mountain.

SUMMARY

In keeping with the scope of this hearing, I will focus my testimony on these key issues:

- The Department of Energy (DOE) must make visible and measurable progress in implementing an integrated national used nuclear fuel management strategy. The Yucca Mountain, Nevada, repository is a critical component of any such integrated strategy. This progress will help ensure that the expanded use of nuclear energy will play a key role in our nation's strategy for meeting growing electricity demand.

- H.R. 5360 can play a key role in establishing a solid basis for making necessary progress toward addressing the challenges facing the Yucca Mountain project, as well as helping set the stage for new nuclear plants.

- Congress should add additional legislative provisions to H.R. 5360 to support the removal of used fuel from commercial nuclear plant sites as soon as possible, together with steps to accelerate development of new technological approaches that would substantially benefit approaches toward the disposal of used fuel.

NUCLEAR ENERGY MUST PLAY A KEY ROLE IN OUR ENERGY FUTURE

In his 2006 State of the Union address, President Bush affirmed the nation's commitment to "safe, clean nuclear energy" as part of a diverse portfolio that will meet America's future electricity needs. A long-term commitment to nuclear energy will make the United States more energy independent and ensure diversity of energy sources. The Administration and Congress demonstrated strong leadership by enacting the Energy Policy Act of 2005. This legislation encourages diversity of energy sources, including emission-free sources of electricity, such as nuclear energy.

The United States has demonstrated remarkable leadership in advancing the commercial use of nuclear energy. Its 103 reactors have achieved record levels of safety, reliability and efficiency. I am convinced that nuclear energy offers a clean, reliable and cost-effective answer to many of our nation's current and future energy needs. Nuclear energy offers several unique advantages. It is the only expandable baseload energy source that does not emit carbon or other greenhouse gases into the atmosphere during operation. Nuclear energy safely and reliably provides price stability for electricity customers as the prices for fossil fuels fluctuate. It also provides exciting new opportunities in areas such as hydrogen production. It is essential that nuclear energy maintain at least the current 20 percent contribution to U.S. electricity production. Maintaining that level of production will require construction of a significant number of new nuclear plants beginning in the next decade.

There is strong, bipartisan support for a continuing significant role for nuclear power. More than two-thirds of the public supports keeping nuclear energy as a key component of our energy portfolio. Many in the environmental community recognize and endorse the role that nuclear energy can play in controlling greenhouse gas emissions. The industry appreciates the recognition of nuclear energy's importance that Congress and the Administration demonstrated in last year's comprehensive Energy Policy Act of 2005.

Recently, a new coalition of diverse organizations and individuals has been formed to educate the public on nuclear energy and participate in policy discussions on U.S. energy issues. The Clean and Safe Energy Coalition, co-chaired by Greenpeace co-founder Patrick Moore and former Environmental Protection Agency Administrator and New Jersey Governor Christine Todd Whitman, includes business, environmental, labor, health and community leaders among its more than 430 members.

THE NEED FOR LEGISLATIVE ACTION

To realize fully the benefits that nuclear power offers, however, the country must resolve outstanding issues related to the ultimate disposal of used nuclear fuel. Ratepayers across America have paid more $27 billion into the Nuclear Waste Fund, and continue to pay an additional $750 million each year. However, DOE has yet to move used fuel from reactor sites as required by the Nuclear Waste Policy Act. It is, in fact, eight years behind schedule in meeting its statutory obligation. Moreover, electricity customers have had to finance costly on-site storage facilities.

The causes for the failure of the federal used nuclear fuel program to date are well-documented. The fundamental problem, however, lies not with the authorizing legislation that Congress enacted 25 years ago. It is, rather, a failure to implement that legislation, as evidenced by a failure to appropriate sufficient funds for the repository and by a failure to follow-through on a consistent commitment to develop the repository. Although new legislation to amend the Nuclear Waste Policy Act is paramount, it is even more critical that the federal government commit itself to the implementation of existing law.

The nuclear energy industry is encouraged by the ambitious schedule announced by DOE on July 19, 2006, for submission of the license application by June 30, 2008, and the "best-achievable" construction schedule that could have the repository begin receiving used fuel in March 2017. The industry encourages DOE to submit the application as soon as possible so the Nuclear Regulatory Commission (NRC) review can begin.

Although DOE's announcement of a schedule for licensing the repository is a significant development, experience suggests that the schedule will be difficult to achieve without congressional action in a number of areas:

- Congress' providing appropriations consistent with Administration requests
- an NRC construction authorization decision consistent with the timelines contained in the Nuclear Waste Policy Act
- any necessary Federal or state authorizations or permits for the repository and the transportation system
- DOE's achieving a nuclear culture consistent with that needed to be a successful NRC licensee.

Enactment of the Nuclear Fuel Management Disposal Act, H.R. 5360, with the amendments we propose, as spelled out below, will help advance several of these important objectives.

H.R. 5360 SUPPORTS THE FUTURE ROLE FOR NUCLEAR POWER IN OUR NATIONAL ENERGY STRATEGY

Waste Confidence Is Affirmed

The nation must be confident that policies are in place to ensure the safe and secure storage and disposal of used nuclear fuel. This waste confidence determination is reflected in NRC rules requiring an NRC finding of "waste confidence" to support various licensing decisions. However, such an approach creates uncertainty because NRC regulations and licensing decisions are subject to litigation, and the issue is one of public policy, not regulatory or technical determination.

Section 9 of H.R. 5360 takes the very important step of codifying the waste confidence rule. This will help avoid potential contentions in individual plant licensing proceedings over the timing and certainty of DOE's performance with respect to its obligations. We strongly support this important step in creating certainty for major new investments by the nuclear industry in response to Congress' Energy Policy Act of 2005.

Managing the nation's used fuel is a firmly established federal obligation and, as such, is a matter of broad national policy under the purview of the elected representatives of our country's people. There is solid scientific and technical justification to affirm waste confidence. In 2001, the National Academy of Sciences confirmed four decades of international scientific consensus that geologic disposal is the best method for managing used nuclear fuel. Congress approved a geologic disposal site at Yucca Mountain in 2002.

In the Energy Policy Act, Congress included provisions that encourage the construction of new nuclear power plants, demonstrating public confidence in the nation's ability to manage used reactor fuel in the future. In addition, DOE has safely operated a geologic disposal site for transuranic radioactive waste near Carlsbad, New Mexico—the Waste Isolation Pilot Project.

Issues regarding the timing and certainty of DOE's performance toward meeting its statutory obligations should be resolved in repository proceedings, or in Congress. Litigation of such issues as part of individual plant licensing proceedings is neither efficient nor appropriate. The NRC has long recognized that individual plant licensing proceedings should not be burdened with debates over DOE's development of the repository. Congress should codify "waste confidence" as called for in H.R. 5360, so that the NRC need not address this broad public policy matter in routine licensing proceedings.

Artificial Constraints on Repository Operations Are Eliminated

Currently, a statutory limit of 70,000 metric tons (MT) exists on the amount of nuclear waste material that can be accepted at Yucca Mountain. The environmental impact statement for the project analyzed emplacement of up to 105,000 MT of commercial used

fuel in the repository. Additional scientific analyses suggest significantly higher capacity could easily be achieved with changes in the repository configuration that use only geology that has already been characterized and do not deviate from existing design parameters. Advanced nuclear fuel cycle technologies could provide significant additional capacity for disposing of waste products in Yucca Mountain.

Decisions on licensing and operations of a deep geologic repository at Yucca Mountain should be based on scientific and engineering considerations through DOE technical analyses and the NRC licensing process, not on artificial constraints. Given the decades of study and the billions of dollars invested in Yucca Mountain, it makes sense that we fully and safely utilize its full potential capacity, rather than developing multiple repositories when there is no technical reason to do so. H.R. 5360 will allow the nation to do just that by lifting the artificial 70,000 MT capacity limit.

H.R. 5360 INCLUDES KEY PROVISIONS FOR YUCCA MOUNTAIN PROGRESS

Offsetting Collections Reclassification Will Enhance Funding Predictability

Congress established the Nuclear Waste Fund to cover costs associated with disposal of commercial used nuclear fuel. This fund is paid for by a one-tenth-of-a-cent-per-kilowatt-hour fee on electricity used by consumers of nuclear energy. Congress has routinely failed to appropriate to the repository program the total fees paid into the Nuclear Waste Fund in that year. Further, restrictions on the federal budget have prevented fees collected, but not appropriated, in one year from being appropriated in subsequent years.

As a result, Yucca Mountain budget requests have been cut by more than $1 billion over the past decade. Program funding requirements are forecast to increase substantially over the next few years. If overall spending totals remain flat, even more significant delays could result, not because nuclear power consumers have not provided the funds necessary to support the program, but because of inappropriate federal budget accounting.

To date, consumers of nuclear power have committed more than $27 billion in fees and accrued interest into the fund. They continue to pay at a rate of $750 million each year. However, only some $9 billion has been spent on the project, leaving a balance in excess of $18 billion. In recent years, fee income has significantly exceeded the annual spending from the fund.

H.R. 5360 would reclassify prospective annual fees so that appropriations up to the full amount of fee revenues for any year would not be limited by discretionary spending caps. Although this approach would be a major step forward, we believe that Congress also should reaffirm the compact with ratepayers in the Nuclear Waste Policy Act and provide that any appropriation for the program could be offset by balances in the Nuclear Waste Fund, whether derived from prospective fees or past fees and interest. This approach has been advocated consistently by the leadership of this Committee from both sides of the aisle.

In addition, we believe it is important for the Congress to act to maintain the integrity of the Nuclear Waste Fund. We support amending H.R. 5360 to define clearly that only activities directly contributing to meeting the federal government's obligation under the Nuclear Waste Policy Act can be supported from the Nuclear Waste Fund. This includes expenditures related to transportation, storage and disposal of used fuel and high-level waste.

Advanced research on energy technologies has consistently been funded through general revenues, and there is no reason research on advanced technologies in processing used nuclear fuel—such as those contemplated under the President's Global Nuclear Energy Partnership (GNEP) program—should be financed any differently. The nuclear industry is deeply appreciative of the amendment successfully offered by Chairman Barton to the fiscal 2007 Energy and Water Development appropriations bill in the House. This amendment prohibits funding from the Nuclear Waste Fund to support GNEP. We believe this should be incorporated into permanent law.

Additionally, Congress should reaffirm its authority over any changes in the Nuclear Waste Fund fee by requiring such changes be made by statutory amendment.

H.R. 5360 Will Enhance Clarity and Stability in the Licensing Process

The NRC repository licensing process should be restructured to ensure that the proceedings are prioritized properly. First, a reasonable, but finite, schedule for review of the authority to "receive and possess" fuel is needed following approval of the construction license. This would be consistent with an established schedule for the initial review of the construction license application and could avoid dilatory procedural challenges that would undermine the government's ability to meet its contractual obligations and avoid the significant costs of delay.

Second, clarification must be provided as to what activities are authorized to develop used fuel management infrastructure prior to the NRC granting a construction license, including the construction of a rail line to connect the Yucca Mountain site with the national rail network. Regulatory authority for the transportation system needs to be clarified as well.

Third, the hearing process for the authorization to receive and possess fuel should be simplified to provide for clear and concise decision-making.

Finally, several key areas need clarification. These include land management and regulations that apply to repository construction and operations. In addition, there is a need to clarify which agencies will administer those regulations.

H.R. 5360 addresses each of these issues to increase the prospect that the "best-achievable" schedule announced by DOE can be met.

CONGRESS SHOULD CONSIDER ADDITIONAL STEPS TO PROMOTE COMPREHENSIVE USED NUCLEAR FUEL MANAGEMENT

While industry fully supports H.R. 5360 and believes its enactment would be a major milestone in implementing our national strategy for managing used nuclear fuel, we believe Congress should include a number of additional provisions in comprehensive legislation.

DOE Should Move Used Nuclear Fuel From Reactor Sites as Soon as Possible

The industry's top priority is for the federal government to meet its statutory and contractual obligation to move used fuel from operating and decommissioned reactor sites. The government already is eight years delayed in meeting this obligation, and it will be at least another decade before the repository is completed. That failure is the subject of more than 60 lawsuits. These lawsuits potentially expose the federal government to billions of dollars in judgments and settlements.

Further delays in federal receipt and movement of used nuclear fuel and defense waste products will only add to utility damage claims. According to DOE, these delays will increase taxpayer liability for defense waste site life-cycle costs and Yucca Mountain fixed costs.

While DOE moves forward to license, construct and operate the Yucca Mountain repository, the government must take title to used fuel and move it to secure federal facilities as soon as practicable. A number of proposals have been made to address the issue of "interim or temporary storage."

The best approach would be for the federal government to begin to move fuel in proximity to the planned repository at the Nevada Test Site.

We urge the Congress to evaluate alternative interim storage proposals. We recommend the following principles:

- Minimize the number of interim storage sites to reduce costs and maximize efficiencies of consolidation.

- Provide host site benefits ideally linking interim storage to recycling and reprocessing technology development as an incentive for voluntary participation.

- Recognize that, while the Nuclear Waste Fund could be used to pay for this interim storage, it should not be used to develop the complementary technology.

- NRC must be provided with the necessary resources and appropriate management focus.

It appears that one or two temporary storage sites that provide benefits desired by the host state and community are the appropriate approach. Industry experience demonstrates that such facilities can be sited, licensed and constructed on an expedited schedule. We are encouraged that DOE has advised Congress, in its solicitation for prospective sites for nuclear fuel recycling facilities, that there will be, of necessity, some temporary storage of used nuclear fuel involved. Several communities have expressed initial interest in participating in such a project. We believe Congress should work with DOE, industry and

potential host sites to determine what steps will best facilitate the movement of used fuel from utility sites, including appropriation mitigation benefits, and incorporate appropriate provisions into H.R. 5360.

Both House and Senate Energy and Water Development appropriations bills for fiscal 2007 have provided direction on this issue. Although clear interest exists in looking at options for early movement of fuel, no option has demonstrated that it is politically and technically workable and could be accomplished in a timely manner. We believe a cooperative and supportive host site is critical to meeting these criteria.

The industry does not believe that the "take title" approach suggested in H.R. 4538 by any measure either meets the government's statutory obligation or provides any benefit. The requirement in that legislation that all used fuel at reactor sites be moved immediately into dry cask storage could add up to $800 million a year over five years to the costs of producing nuclear energy. Regardless of the temporary storage strategy chosen, it is critical that those activities not divert attention and resources from repository development.

New Reactor Waste Disposal Contract Issues Need to Be Addressed

As utilities prepare to license and construct new nuclear power plants, it is important that appropriate changes be made in the Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste originally established by rulemaking (10 CFR, Part 961) to reflect developments since these contracts were originally drafted in the 1980s. While the language in both the Nuclear Waste Policy Act and disposal contracts allows an existing contract to be amended adding new plants, DOE's failure to perform, and the subsequent litigation, has created a situation where this option may be difficult to execute. Instead, the preferred path forward would be to enact legislation directing DOE to enter into new disposal contracts for new nuclear plants that are consistent in form and substance with the existing disposal contracts, but which take into account the schedule for the operation of new plants. In particular, the 1998 deadline in the existing contracts should be revised in contracts executed for new plants.

Congress also should consider steps that could facilitate early resolution of future claims by utilities against the federal government for its continuing failure to meet its obligations under the Nuclear Waste Policy Act.

Yucca Mountain Licensing Process Should Provide Flexibility to Address Future Developments

As provided by existing regulations, Congress should direct DOE to incorporate features into its repository development plans that maintain flexibility for future generations to make informed decisions based on operational experience, changing energy economics and technological developments. It should be made clear that it was always the intent that the repository design retains the ability to monitor and, if needed or desired, retrieve the used fuel.

The nuclear energy industry supports enhancements to the Yucca Mountain repository that would provide greater long-term assurance of safety and permit DOE to apply innovative technology at the repository as it is developed. These enhancements include:

- extensive monitoring of the used nuclear fuel placed in the repository and its effects on the surrounding geology for 300 or more years

- the ability to retrieve the used nuclear fuel from the facility for an extended period

- periodic review of updates to the repository license that take into account monitoring results and ensures that the facility is operating as designed.

DOE already has committed to facilitate the use of these elements in its repository planning. According to DOE's final environmental impact statement, for a period of 50 to 300 years, the federal government will "collect, evaluate and report on data" to assess the performance of the repository and the ability to retrieve the used fuel within the facility, if desired. In addition to monitoring material within the facility, DOE will conduct tests and analyses to ensure that the repository is constructed and operated according to strict guidelines. Although DOE is pursuing these elements, Congressional direction on the proposed enhancements would provide greater certainty on the scientific and regulatory oversight of long-term repository operation and the condition of the material stored there.

Doing so would require no modification to the existing federal statutory or regulatory framework. DOE could include these enhancements as part of its "receive and possess" application and the commitment to complete them should be incorporated as a condition of the NRC license.

This direction will offer greater assurance to the public that long-term stewardship of used fuel at Yucca Mountain will be carefully monitored throughout repository operation. It also would allow DOE to take advantage of future technological innovations to improve the repository or provide for the potential reuse of the energy that remains in the fuel.

Yucca Mountain's Public Health, Safety Standard Should Be Consistent With Regulatory Precedents

We believe that the revised 1 million-year radiation standard proposed by the Environmental Protection Agency would be fully protective of public health and the environment, and that the repository design could meet such a standard. Nonetheless, we are deeply concerned that the potential for an extended rulemaking review process and subsequent litigation could result in yet more costly, unnecessary delays in the Yucca Mountain project. In addition, given the significance of the issue, we believe it is important for Congress to address the matter directly.

Congress should carefully consider the inherent uncertainties in establishing regulations extended over such an unprecedented period. This approach could have unintended effects on regulatory standards for other non-radioactive and radioactive hazardous materials. We advocate incorporating a 10,000-year regulatory standard in legislation.

Such a compliance period is consistent with that prescribed for all radioactive waste requiring disposal in other geologic repositories. The million-year standard applies only to Yucca Mountain.

The 10,000-year standard, for example, applies to long-lived waste, such as transuranic waste at the Waste Isolation Pilot Plant. The 10,000-year standard also applies to land disposal of non-radioactive hazardous waste by means of underground injection. In fact, the 10,000-year standard is considerably greater than other, analogous regulatory compliance periods. These include 500 years for the land disposal of low-radioactive waste; and 1,000 years for the decommissioning of NRC licensed nuclear facilities.

Adaptive Staging

The 2003 report of the National Research Council of the National Academy of Science, "One Step at a Time." recommended the use of adaptive staging for repository development. While there are elements of this concept that appear attractive, we have significant concerns that the specific processes recommended in the report could unduly complicate and delay repository licensing and operations due to lack of certainty in decision making.

Used Nuclear Fuel Recycling

The nuclear energy industry has shown consistent and strong support for research and development of advanced fuel-cycle technologies incorporated in the Advanced Fuel Cycle Initiative (AFCI). In anticipation of a major expansion of nuclear power in the United States and globally, it is appropriate to accelerate activities in this program. The resurgence in development of nuclear energy is expected to require advanced fuel cycles. However, regardless of the success of AFCI technology, a repository will be necessary to handle defense waste, as well as commercial used nuclear fuel and its byproducts, regardless of any fuel cycle that is ultimately developed.

President Bush has presented a compelling vision for a global nuclear renaissance through the GNEP. This initiative provides an important framework to satisfy U.S. and world needs for an abundant source of clean, safe nuclear energy while addressing challenges related to fuel supply, long-term radioactive waste management, and proliferation concerns. As recently introduced by DOE, it may be possible that currently available technologies could be used creatively to jump-start the development of the needed advanced nuclear fuel cycle technologies.

We appreciate the steps that DOE has taken to solicit industry views on the timing, direction and defining roles of interested parties in the Global Nuclear Energy Partnership. The extensive response the Department received to its Expression of Interest last week, and additional input it will receive in the coming months, will help DOE and Congress make more-informed decisions on the best way to proceed with research and development of these technologies.

We recognize that Congress has important questions regarding this program. DOE's near-term focus for GNEP is to determine, by 2008, how to proceed with the demonstration of advanced recycling technologies and other technological challenges. We also recognize that special attention must be given to how facilities would be licensed and the potential impact this could have on NRC resources for major licensing actions on new plants and Yucca Mountain in parallel periods. Consequently, the industry fully supports increased funding for AFCI in fiscal 2007. However, neither AFCI nor GNEP reduces the near-term imperative to develop the Yucca Mountain repository.

A Constructive Role for Nevadans

The nuclear energy industry supports an active and constructive role for Nevada in the development of Yucca Mountain to help ensure the safety of its citizens. The industry also supports compensation for the State to account for the program's socioeconomic impact, as called for in the Nuclear Waste Policy Act. This model is consistent with the siting and operation of the Waste Isolation Pilot Plant.

The industry is encouraged by the steps DOE has taken to work with affected local governments in the State, and we further encourage DOE to expand its interactions with Nevadans interested in constructive engagement in the project. The industry urges the Congress to include provisions in H.R. 5360 to foster these developments.

CONCLUSION

We must never lose sight of the federal government's statutory responsibility for civilian used nuclear fuel disposal, as stated by Congress in the Atomic Energy Act of 1954 and the Nuclear Waste Policy Act of 1982. The industry fully supports the fundamental need for a repository so used nuclear fuel and the byproducts of the nation's nuclear weapons program are managed safely and securely in a specially designed, underground facility. World-class science has demonstrated that Yucca Mountain is an eminently suitable site for such a facility.

A viable used fuel management strategy is necessary to retain long-term public confidence in operating existing nuclear power plants and in building new nuclear power plants to meet our nation's growing electricity needs, and to fuel our economic growth. The public confidence necessary to support construction of new nuclear plants is linked to successful implementation of an integrated national used fuel policy, which includes a continued commitment for the long-term disposition of used nuclear fuel. This requires a commitment from the Administration, Congress and other stakeholders to ensure that DOE makes an effective transition from a scientific program to a licensing and construction program, with the same commitment to safety. New waste management approaches, including temporary storage and nuclear fuel recycling, are consistent with timely development of Yucca Mountain.

Enactment of H.R. 5360, with the amendments we have advocated, is the critical prerequisite to implementing our national policy for used fuel management.